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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,675	07/20/2005	Martin Geier	23135	1884
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K.F. ROSS P.C.				FISHER, ABIGAIL L
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/517,675	GEIER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ABIGAIL FISHER	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-24 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date ____ .	6) <input type="checkbox"/> Other: ____ .

## **DETAILED ACTION**

Claims 1-24 are pending.

### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat.

App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation alpha-hydroxycarboxylic acids, and the claim also recites particularly alpha-hydroxymonocarboxylic acids which is the narrower statement of the range/limitation.

Claim 1 as currently written is vague and indefinite. The claim indicates that for group I and II that the alkyl chain can comprises zero carbons. It is unclear how this is possible as the claims indicate that the groups consist of carboxylic acids. If alkyl chain contains no carbon atoms then it is unclear what the corresponding structure would be. Is it carbon dioxide, an aldehyde, something else?

Claim 22 recites the limitation "trap or kit of claim 1" in line 1. There is insufficient antecedent basis for this limitation in the claim. Specifically, claim 1 is directed to a composition not a trap or kit.

Claim 22 as currently written is vague and indefinite. The claim recites components a, b, c and d. However, claim 1 only claims components a, b and c.

Claim 10 recites the limitation "component d acetic acid" in line 2. There is insufficient antecedent basis for this limitation in the claim. Specifically, claim 1 comprises components a, b and c. However, d is not an option.

Claim 11 recites the limitation "components a:b:c:d" in line 2. There is insufficient antecedent basis for this limitation in the claim. Specifically, claim 1 comprises components a, b and c. However, d is not an option.

Claim 12 as currently written is vague and indefinite. It is unclear how acetic acid is included in the composition as it is not a component defined by components a, b or c of claim 1.

Claim 17 recites the limitation "acetic acid" in line 2-3. There is insufficient antecedent basis for this limitation in the claim. Specifically, claim 1 comprises components a, b and c and acetic acid is not an option for component a, b or c.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-2, 8-9, 18 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Bosch et al. (Chem. Senses, 2000).**

Applicant claims a composition for attracting blood-sucking arthropods and/or fruit flies comprising an effective amount of at least one compound selected from Group I: alpha-hydroxycarboxylic acids, Group II: alpha-thiomonocarboxylic acids and alpha-thiodicarboxylic acids, and Group III: aryl substituted compounds of group I or II, at least one C<sub>4</sub>-C<sub>8</sub> carboxylic acid, and ammonia and/or primary amines.

Bosch et al. is directed to the study of compositions comprising fatty acids and their ability to attract female *Aedes aegypti* (female mosquitoes aka blood-sucking arthropods). Figure 4 and Results section (page 325, responses to mixtures of two fatty acids, ammonia, and lactic acid) are directed to compositions comprising, lactic acid, ammonia, and C<sub>3</sub> and C<sub>5</sub> fatty acids. Lactic acid corresponds to a compound from group I, C<sub>5</sub> fatty acid corresponds to valeric acid and C<sub>3</sub> corresponds to propionic acid. The components were utilized in various different dilutions (figure 2), therefore a diluting agent (water was present).

#### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue, and resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 5-7, 10-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosch et al.**

#### **Applicant Claims**

Applicant claims the composition comprises lactic acid, caproic acid and ammonia. The ratio of Group I, II, or III to at least one C<sub>4</sub>-C<sub>8</sub> carboxylic acid and to ammonia and/or primary amines is from 1:0.01-100:0.01-10. The composition further comprises acetic acid.

#### **Determination of the Scope and Content of the Prior Art (MPEP §2141.01)**

Bosch et al. is directed to the study of compositions comprising fatty acids and their ability to attract female *Aedes aegypti* (female mosquitoes aka blood-sucking

arthropods). It is taught that L-lactic acid in combination with carbon dioxide works synergistically to attract yellow fever mosquito *Aedes aegypti* (page 323, left column, first paragraph). This study utilized single fatty acids in combination with lactic acid as well as combinations of fatty acids with lactic acid. The fatty acids that were the most effective were low ( $C_1$  to  $C_3$ ) or medium ( $C_5$  to  $C_8$ ) (page 325, right column, first paragraph).  $C_6$  corresponds to caproic acid.  $C_1$  corresponds to acetic acid. The amount of lactic acid utilized corresponds to 3  $\mu$ g/min, the amount of ammonia corresponds to 5  $\mu$ g/min, and the fatty acids were utilized in two different dilutions 5 and 500  $\mu$ l in 50 ml of deionized water at different flow rates 3, 30, and 300 ml/min (page 324, application of the odor stimuli). It is taught that carbon dioxide plus the lactic acid mixture produces synergistic effect in terms of increased attractiveness (page 327, left column, first paragraph and Figure 5B).

**Ascertainment of the Difference Between Scope the Prior Art and the Claims  
(MPEP §2141.012)**

Bosch et al. do not explicitly teach the ratio of components claimed. Bosch et al. do not exemplify a formulation comprising caproic acid, lactic acid, and ammonia and further comprising acetic acid. Bosch et al. does not exemplify carbon dioxide in the formulation comprising the fatty acids, lactic acid, and ammonia. However Bosch et al. does indicate different concentrations that are suitable and indicates that both caproic acid and acetic acid are effective in attracting *Aedes aegypti*. Bosch et al. teach that carbon dioxide produces a synergistic effect in combination with lactic acid mixtures.

**Finding of Prima Facie Obviousness Rational and Motivation  
(MPEP §2142-2143)**

It would have been obvious to one of ordinary skill in the art to substitute acetic acid and caproic acid for the exemplified propionic and valeric acid. One of ordinary skill in the art would have been motivated to replace acetic acid and caproic acid with propionic and valeric acid as all are taught by Bosch et al. as functional equivalents. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to the optimal combination of fatty acid to produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. **In re Aller, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).**

It would have been obvious to one of ordinary skill in the art to optimize the ratio of the components present in the formulations taught by Bosch et al. "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages." *In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).* Therefore, one of ordinary skill in the art would have been motivated to vary the ratios of the components to determine what ratios will produce the optimal attracting composition.

It would have been obvious to one of ordinary skill in the art to include carbon dioxide in the attracting composition. One of ordinary skill in the art would have been motivated to include carbon dioxide as Bosch et al. teach that carbon dioxide produces a synergistic response in terms of attractiveness when utilized in combination with lactic acid mixtures.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

**Claims 4, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosch et al. in view Heath et al. (US Patent No. 5907923).**

#### **Applicant Claims**

Applicant claims the ammonia is from an ammonium releasing compound. Applicant claims that at least one of the components is spatially separated and not in admixture with each other. Applicant claims that the components are located in separated containers or vials.

#### **Determination of the Scope and Content of the Prior Art (MPEP §2141.01)**

The teachings of Bosch et al. are set forth above. Specifically, Bosch et al. teach formulations for attracting *Aedes aegypti* comprising lactic acid, fatty acids, and ammonia.

#### **Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)**

Bosch et al. do not teach that the ammonia is from ammonia releasing compounds. However, this deficiency is cured by Heath et al.

Heath et al. is directed to a trapping system for fruit flies. It is taught that ammonia, acetic acid (from ammonium acetate), and putrescine are used in

combination to attract fruit flies (column 8, lines 11-13). It is taught that the ammonia, acetic acid, and putrescine are utilized without interference from other chemicals.

***Finding of Prima Facie Obviousness Rational and Motivation  
(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art to combine the teachings of Bosch et al. and Heath et al. and utilize ammonium acetate and putrescine in the composition of Bosch et al. One of ordinary skill in the art would have been motivated to utilize this form of ammonia in combination with putrescine for the added benefit of attracting fruit flies as taught by Heath et al.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Bosch et al. and Heath et al. and utilize the components in separate vials. One of ordinary skill in the art would have been motivated to keep the chemicals in separate vials as a way to avoid interference between the chemicals as taught by Heath et al.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

**Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosch et al. and in view of Heath et al. and Bernier et al. (US PGPUB No. 20020028191).**

### **Applicant Claims**

Applicant claims that the aryl group is a phenyl group. Applicants claim the composition further comprises a means for controlled release of the components.

### **Determination of the Scope and Content of the Prior Art (MPEP §2141.01)**

The teachings of Bosch et al. and Heath et al. are set forth above. Specifically, Bosch et al. teach formulations for attracting *Aedes aegypti* comprising lactic acid, fatty acids, and ammonia.

### **Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)**

Bosch et al. do not teach utilizing aryl compounds. Bosch et al. do not teach adding a controlled release means. However, this deficiency is cured by Bernier et al.

Bernier et al. is directed to chemical compositions that attract arthropods. The compositions include chemicals of formula I and at least one compound from group II (claim 22). Compounds of formula I include lactic acid (claim 40). Compounds of group II include C<sub>6</sub>-C<sub>10</sub> aryl groups, specifically p-cresol, phenol, or toluene (claim 35). The aryl groups can be substituted with H, halogen, OH, SH, COOH, etc. (claim 22). It is taught that the addition of a slow release chemical mechanism such as paraffin provides a means to reduce the evaporation rates of the composition (paragraph 0245).

### **Finding of Prima Facie Obviousness Rational and Motivation (MPEP §2142-2143)**

It would have been obvious to one of ordinary skill in the art to combine the teachings of Bosch et al., Heath et al., and Bernier et al. and utilize aryl compounds. One of ordinary skill in the art would have been motivated to utilize aryl compounds as

Bernier et al. teach these compounds in combination with lactic acid are utilized for attractants of *Aedes aegypti*. One of ordinary skill in the art would have been motivated to select aryl acids as Bernier et al. teach aryl compositions as well as that these compositions aryl compounds can be substituted with acid (COOH) groups.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Bosch et al., Heath et al., and Bernier et al. and utilize paraffin in the composition as a way to reduce the evaporation rates of the composition as taught by Bernier et al.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABIGAIL FISHER whose telephone number is (571)270-3502. The examiner can normally be reached on M-Th 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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